by one of 1lb., because they were able to quote chapter and verse in which Aristotle assured them that such is the fact."

Others later on positively refused to look through his telescopes or to test his experiments on floating bodies.

The connection between music and mathematics was maintained in Galileo's case. He played on the lute and his father was a well-known authority on music.

Of the books themselves we can speak in the highest terms. Dr. McIntyre has evidently made an exhaustive study of recent editions of Bruno's works. His is the only English work dealing completely with Bruno's life and philosophy, and it is illustrated by a frontispiece of the statue erected in 1889 on the site on which Bruno was burnt. Mr. Fahie has been fortunate to secure the assistance of Prof. Antonio Favaro, himself the author of a monumental collection of Galileo's works. Every minute point, such as the familiar "Eppur si muove" anecdote is examined critically and the book is beautifully illustrated.

Let us not close these volumes without comparing the positions of scientific workers three hundred years ago and at the present time. The comparison brings little credit to our nation. Science teachers have quite recently been deprived of their posts, and their careers have been ruined by inquisitions. The attitude of the peripatetics towards experimental science finds its counterpart in the attitude of the modern "practical man" towards all pure science above B.Sc. standard. As for the hostility of Pisa towards Galileo, it has been pointed out elsewhere that workers at the two older English Universities have, in several cases, had to contend against similar and equally persistent opposition on the part of their *Alma mater* quite recently. It is true that men are no longer imprisoned, tortured, or burnt on account of their convictions. But, on the other hand, philosophers and mathematicians to grand dukes have ceased to exist. G. H. BRYAN.

A MONOGRAPH ON IMPORTED PARROTS.

Parrakeets. A Handbook to the Imported Species. By David Seth-Smith, M.B.O.U., F.Z.S. Pp. xix + 281; with 20 coloured plates and other illustrations. (London: R. H. Porter, 1903.) Price 40*s*. net.

MR. SETH-SMITH'S valuable monograph of the imported species of parrakeets is now complete, and forms a handsome, well-proportioned volume. Scientifically speaking, there is no distinction between a "parrot" and a "parrakeet," the latter word being merely a popular term used for the smaller parrots. It cannot be applied to any particular family, or to those species with long or short tails. The title of this work must therefore be interpreted in the sense in which it is generally used by aviculturists. The work treats of about 130 species belonging to the families Loriidæ, Cacatuidæ, and Psittacidæ (subfamilies Nasiterninæ, Conurinæ, Palæornithinæ, and Platycercinæ). No less than thirty-three species are represented on the beautifully executed coloured plates, and there are more than a score of illustrations in the text, chiefly illustrating the nesting and other habits. Moreover, the author has been careful to indicate the work or works in which a coloured illustration of those species not figured by him may be found. Full and most useful directions as to feeding and managing the different species are given, as well as for breeding those species which have reared, or are likely to rear, their young with us. It is also pointed out which species are most suitable for large aviaries, and which are more adapted for smaller cages. The whole book throughout is most readable and instructive. For as well as all worth reproduction which has been written about the different species in captivity, the author has collected from the folios of Gould, Mr. A. J. Campbell's "Nests and Eggs of Australian Birds," Dr. Mivart's "Monograph of the Loriidæ," and many other works a great deal that has been written about the life-history and habits of the birds in a wild state, so that his work forms an excellent history of these beautiful birds, and is alike interesting to the field naturalist and the aviculturist.

Turning over these interesting pages we notice especially the lorikeets or brush-tongued parrots, some of the most gorgeous of the tribe; the familiar cockatiel, which, with the exception of the budgerigar, is the commonest Australian species with English bird-keepers, breeding regularly in captivity; and the numerous race of the American conures. This group contains two species of especial interest, viz. the Carolina conure and the grey-breasted parrakeet. The former is the only North American parrot, and although once so abundant, seems likely to share the fate of the passenger pigeon. The latter, belonging to a genus containing but two known species, is one of the most interesting in the whole parrot family from the fact that these are the only nest-building parrots known, with the exception of the love-birds (Agapornis), which line their nest-hole with the pliant pieces of bark from green twigs, and may therefore be termed nest-building parrots. The present species, however, builds a large nest of sticks among the branches of tall trees, which no other parrots, so far as is known, ever do. It is gregarious, always living in flocks, and the nests, which perhaps at first are single and inhabited by a single pair of birds, are gradually added to until they become of enormous size. There is a porch to each chamber, and the present writer has often seen the black beady eyes of these little parrots peeping out as he passed under trees bearing these wonderful nests.

Then we come to the large genus Palæornis, to which belong parrots that have been known to civilisation from a remote period, *e.g.* the blossom-headed parrakeet, believed to have been described in the fifth century B.C. The restricted genus Polytelis includes the beautiful parrakeet known to Australians as the "green leek." The love-birds are remarkable, as before mentioned, for their nest-building habits, and those gorgeous little birds, the hanging parrakeets, for their curious habit of suspending themselves head downwards when sleeping. Among those species the beauty of which singles them out among a beautiful host, we have the broad-tailed parrakeets, of which the Rosella is the best known; the rarely imported

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Alexandra parrakeet, discovered during the Stuart Expedition into central Australia in 1862; the paradise parrakeet, classed with the golden-shouldered parrakeet as the most lovely of all the Australian parrakeets; and the splendid parrakeet the wonderful colours of which, as well as those of the species last mentioned, are displayed on two of the plates.

It has been the aim of the author to make the present book a complete monograph of the imported species of parrakeets. New species may be expected to arrive from time to time. For instance, when the first part of the work was issued no living specimen of the varied lorikeet (*Ptilosclera versicolor*) had ever been known in this country, but a few months later a few pairs reached London, and this species has accordingly been included (with a coloured plate) in the appendix, in which additional information respecting several other parrakeets is to be found. O. V. A.

MULTIPLICATION TABLE.

Table of Multiplication, Division and Proportion for the Ready Calculation of Quantities and Costs, Estimates, Invoice Prices, Interests and Discounts, Weights and Strengths, Wages and Wage Premiums. By Robert H. Smith, M.I.M.E., &c. (Westminster: Archibald Constable and Co., Ltd., 1903.) Price 6*s*. net.

THIS consists simply of a gigantic multiplication table for every figure up to 100 times 160, there being 100 horizontal lines of products arranged in 160 vertical columns on a sheet 5 feet long and 11½ inches wide. The sheet is mounted like a map upon canvas, so as to open at any part of the length and exhibit two pages, each page containing 10 vertical columns indexed right and left with every 10th number up to 100. To guide the eye wider spacing is provided at every fifth line and column, and still wider at every tenth, as in logarithm tables. The index numbers are equivalent to a repetition of the first column on every page, so that any line up to the 100th can at once be found. As in any other multiplication table, the figure found at any place is the product of the first figure on the line and the top figure of the column on which it is found.

On the back of the sheet are a corresponding series of pages on which Prof. Smith has explained how the table may be used for all the purposes described in the title.

If two numbers have to be multiplied together the product can, of course, be read directly if they do not exceed 100 and 160, but if that was all the table was for, even though it is well arranged, it would hardly be worth getting out of its place. If only one of the figures exceeds these by not more than two digits, it may be broken up into two parts, *e.g.* 3781 into 3700 and 81, and the two partial products read, preferably in a single column when that is possible, and mentally added. If both factors exceed these amounts then four partial products have to be found, and two columns must be employed, which may be on different pages. This necessitates writing down the four partial products of probably four digits each, and taking care that the units place is properly placed in each. Then on adding, the product is found exact, of course to the last figure. It is not worth while in this notice to refer to rules or practice as to placing the decimal point if the factors contain decimal figures.

Division, of course, is performed by finding the quotient in the body of the table on the line or column of which the first figure is the deviser. Then the quotient will be the first figure of the column or line. This is only possible when the dividend is an exact product of two numbers not exceeding 100 and 160. Of course, in practice it never is, and then interpolation is necessary. Prof. Smith gives two methods. Where, however, both the diviser and quotient exceed 100 and 160 the double interpolation necessary seems to the writer to involve so much trouble, and to provide such opportunity for mistakes, that he would prefer to perform the operation with a pencil and paper in the usual way of the school if slide rules, logarithm tables, or calculating machines were not sufficient or available.

Simple proportion can, of course, be performed where the four quantities are all actually existing in the table by direct inspection, but again, in practice they never would be, and interpolation, either single or double, would be necessary.

The other processes described in the title which involve one or other of these operations are explained in the text on the back. It might very well be that for certain classes of calculation or of office work where the computer or clerk had the same kind of thing to do indefinitely, the table would afford the readiest means of finding an exact result, but for general use by people who could not for want of practice be quite adept, it is a question whether the constantly recurring interpolation complication would not give more trouble than direct arithmetic, besides leading to endless mistakes. C. V. B.

THE ZOOLOGICAL RECORD FOR 1902.

The Zoological Record, vol. xxxix., relating chiefly to the Year 1902. Edited by D. Sharp. (London: Zoological Society, 1903.)

ALTHOUGH on the title-page this volume, which slightly exceeds its predecessor in bulk, bears the date 1903, as a matter of fact it was not in the hands of the public until the beginning of the present year. This slight delay, as the editor informs us, is more than accounted for by certain unexpected changes in the staff of recorders, notably the loss of the services of Prof. J. A. Thomson, who has felt himself compelled to relinquish the compilation of that very important section of the undertaking entitled "General Subjects." His place, apparently at short notice, has been taken by the editor, who, in addition, is responsible for the insects, as well as for the general supervision of the whole text, and must therefore have had very hard work to complete his task so nearly within the appointed time-limit. The other contributors the

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